

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : (+)-*cis*-Diltiazem hydrochloride

Product Number : D2521

Brand : Sigma

Company : Sigma-Aldrich Canada, Ltd
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CANADA

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2. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : CRD-401
(2*S*,3*S*)-(+)-*cis*-3-Acetoxy-5-(2-dimethylaminoethyl)-2,3-dihydro-2-(4-methoxyphenyl)-1,5-benzothiazepin-4(5*H*)-one hydrochloride

Formula : C₂₂H₂₈N₂O₄S · HCl

Molecular Weight : 450.98 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
(2 <i>S</i> - <i>cis</i>)-3-Acetoxy-5-[2-(dimethylamino)ethyl]-2,3-dihydro-2-(4-methoxyphenyl)-1,5-benzothiazepin-4(5 <i>H</i>)-one monohydrochloride			
33286-22-5	251-443-3	-	-

3. HAZARDS IDENTIFICATION**Emergency Overview****Target Organs**

Cardiovascular system., Liver

WHMIS Classification

Not WHMIS controlled.

Not WHMIS controlled.

HMS Classification**Health Hazard:** 1**Chronic Health Hazard:** ***Flammability:** 0**Physical hazards:** 0**Potential Health Effects**

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Inhalation : May be harmful if inhaled. May cause respiratory tract irritation.

Skin : May be harmful if absorbed through skin. May cause skin irritation.

Eyes : May cause eye irritation.

Ingestion : Harmful if swallowed.

4. FIRST AID MEASURES**General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIRE-FIGHTING MEASURES**Flammable properties**

Flash point : no data available

Ignition temperature : no data available

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

6. ACCIDENTAL RELEASE MEASURES**Personal precautions**

Use personal protective equipment. Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation.

Environmental precautions

Do not let product enter drains.

Methods for cleaning up

Pick up and arrange disposal without creating dust. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE**Handling**

Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

Storage

Keep container tightly closed in a dry and well-ventilated place.

Recommended storage temperature: 2 - 8 °C

Keep in a dry place.

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

Personal protective equipment**Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a dust mask type N95 (US) or type P1 (EN 143) respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection

Handle with gloves. For prolonged or repeated contact use protective gloves.

Eye protection

Safety glasses with side-shields conforming to EN166

Skin and body protection

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES**Appearance**

Form : powder

Colour : white

Safety data

pH : no data available

Melting point : 212 °C (414 °F)

Boiling point : no data available

Flash point : no data available

Ignition temperature : no data available

Lower explosion limit : no data available

Upper explosion limit : no data available

Water solubility : ca.50 g/l

10. STABILITY AND REACTIVITY**Storage stability**

Stable under recommended storage conditions.

Materials to avoid

Strong oxidizing agents

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, nitrogen oxides (NOx), Sulphur oxides, Hydrogen chloride gas

11. TOXICOLOGICAL INFORMATION

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Acute toxicity

LD50 Oral - rat - 560 mg/kg

Remarks: Behavioral: Antipsychotic.

Irritation and corrosion

no data available

Sensitisation

no data available

Chronic exposure

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Signs and Symptoms of Exposure

Gastrointestinal disturbance

Potential Health Effects**Inhalation** : May be harmful if inhaled. May cause respiratory tract irritation.**Skin** : May be harmful if absorbed through skin. May cause skin irritation.**Eyes** : May cause eye irritation.**Ingestion** : Harmful if swallowed.**Target Organs** : Cardiovascular system., Liver,**Additional Information**

RTECS: DL0310000

12. ECOLOGICAL INFORMATION**Elimination information (persistence and degradability)**

no data available

Ecotoxicity effects

no data available

Further information on ecology

no data available

13. DISPOSAL CONSIDERATIONS**Product**

Observe all federal, state, and local environmental regulations.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION**DOT (US)**

Not dangerous goods

IMDG

Not dangerous goods

IATA

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Not dangerous goods

15. REGULATORY INFORMATION**DSL Status**

This product contains the following components that are not on the Canadian DSL nor NDSL lists.

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16. OTHER INFORMATION**Further information**

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